



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,142	04/24/2001	Kenji Kataoka	ND-387US	4404

466 7590 06/03/2004

YOUNG & THOMPSON
745 SOUTH 23RD STREET 2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

KITOV, ZEEV

ART UNIT PAPER NUMBER

2836

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,142

Applicant(s)

KATAOKA, KENJI

Examiner

Zeev Kitov

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Examiner acknowledges a submission of the IDS filed on May 22, 2003.

The allowance of Claims 1 – 10 indicated in a previous Office Action is withdrawn. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 05/22/2003 prompted the new ground(s) of rejection presented in this Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinpo et al. (JP 08243084), which disclose all the elements of the Claims 9 and 10, including an electrostatic breakdown prevention apparatus having the capacitor switchably connected to ground (elements 9 in Fig. 1), the movable member, and the pressing member, making possible connection to the ground of the capacitor. Shinpo et al. disclose a capacitor switchably connected to the ground (elements 9 in Fig. 1), and the switching mechanism (element 10 in Fig. 1) is provided for the grounding line and switches the capacitor between a grounded state and a non-grounded state. Shinpo et al. further disclose a movable member (elements 11, 12 and 13 in Fig. 3) that is urged

Art Unit: 2836

to a first position in which the capacitor is connected to the ground and a pressing member (elements 14, 15 and 16 in Fig. 3) that moves the movable member to a second position in which the capacitor is not connected to ground.

Regarding Claim 10, Shinpo et al. disclose the resistor (element 7 in Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinpo et al. (JP 08243084) in a view of Broedner et al. (US 5,787,298). Regarding Claim 1, Shinpo et al. disclose most of the elements of the claim including an electrostatic breakdown prevention apparatus having a connector between an electronic apparatus body and an external apparatus and a signal line used for a data transfer between the electronic apparatus body and the external apparatus, including: an electrostatic breakdown preventing smoothing circuit provided for the signal line on the electronic apparatus body side with respect to the connector for smoothing a signal inputted to the signal line (elements 7 and 9 in Fig. 1); and a switching mechanism (element 10 in Fig. 1, paragraph 0021 of Specification) provided on the connector for stopping the smoothing function of said electrostatic breakdown preventing smoothing circuit when the connector is connected, but restoring the smoothing function of the

Art Unit: 2836

electrostatic breakdown preventing smoothing circuit when the connector is disconnected (paragraphs 0014, 0019 – 0029). The only difference between the reference and the Claim 1 of the Application is that the reference does not explicitly states that the signal line is used for bi-directional data transfer. Broedner et al. disclose the bi-directional serial data bus (see the Abstract), which is a part of the data bus supporting a hot-plugging (col. 11, lines 7 – 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Shinpo et al. solution by applying the same smoothing circuit solution to the bi-directional data bus as it uses for protection of all other busses without explicitly stating that, because (i) the bi-directional data busses need the hot-plugging overshoot protection, like all other busses, (ii) especially in a view that the bi-directional data bus spends most of the time either transmitting or receiving the data, i.e. working as unidirectional data bus and (iii) in both cases, bi-directional and uni-directional data transfer, transmitter and receiver are both electrically involved in a process and therefore, both need protection. Since involved elements are the same, there is no difference in protection solutions.

Regarding Claim 4, Shinpo et al. disclose all the elements of the claim including a resistor connected to the signal line (element 7 in Fig. 1), a grounding line connected to the signal line (line 2 in Fig. 1), and a capacitor interposed in the grounding line (elements 9 in Fig. 1), and the switching mechanism (element 10 in Fig. 1) is provided for the grounding line and switches the capacitor between a grounded state and a non-grounded state.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinpo et al. in a view of Broedner et al. and further in a view of Tsutomu (JP6 – 21174 U). As was stated above, Shinpo et al. and Broedner et al. disclose all the elements of Claim 1. Regarding Claim 2, Shinpo et al. further disclose a static electricity destruction prevention smoothing circuit attached to the signal line of an external device. However, they do not disclose placement of smoothing circuit in the main electronic apparatus body. Tsutomu discloses the smoothing circuit attached to the main electronic apparatus body (paragraphs 007 - 0010). Both patents have the same problem solving area, namely providing protection to the electronic equipment being subjected to hot plugging. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Shinpo et al. solution by placing an additional smoothing circuit into the main electronic apparatus body according to Tsutomu, because such redundancy will increase reliability of the electronic system in conditions of hot-plugging.

Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinpo et al. in a view of Broedner et al. and Tsutomu and further in a view of Tsurumaki (JP 5 – 211077). As was stated above, Shinpo et al., Broedner et al. and Tsutomu disclose all the elements of Claims 1 and 2. However, regarding Claim 3, they do not disclose simultaneous switching the smoothing circuits both the electronic

Art Unit: 2836

apparatus body side and the external apparatus side. Tsurumaki discloses a connector providing connection

performed in specific sequence (paragraphs 003 – 005). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Shinpo et al. by adding the switching elements of Tsurumaki, because as Tsurumaki states (paragraphs 003 – 005), when connecting the lower-order device to the higher-order host device, it is essential to maintain a sequence of connection of different lines. Particularly, simultaneous connection of different lines is one of possible options.

As per Claim 5, it differs from Claim 3 by its limitations of a movable member, a biasing member and a pressing member of the switching mechanism. Tsurumaki (JP Hei 5 – 211077) discloses all the additional elements of the claim including a movable member (element 5 in Fig. 1) provided for sliding movement on a first one of connector elements, and a movable contact (element 7 in Fig. 1) for being contacted with the grounding line (through terminating resistor 11 in Fig. 1) to place the grounding line into a connected state, a biasing member (vertical part of element 5 in Fig. 1) for biasing the movable member in a direction in which the movable contact is brought into contact with the grounding line and a pressing member (element 9 in Fig. 1) provided on a second one of the connector elements for fitting connection to the first connector element for moving, when the first and second connector elements are connected to each other, the movable member against a biasing force of the biasing member to bring said movable contact provided on said movable member out of contact with said grounding line.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Shinpo et al. solution by adding the connector according to Tsurumaki, because as Tsurumaki states (paragraphs 003 – 005), when connecting the lower-order device to the higher-order host device, it is essential to maintain a sequence of connection of different lines.

Claims 6 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Shinpo et al. in a view of Broedner et al. and further in a view of Golf et al. (US 6,355,991). As was stated above, Shinpo et al. in a view of Broedner et al. disclose all the elements of Claim 1. However, regarding Claim 6, they do not disclose a magnet provided on a second one of said connector. Golf et al. discloses a lead switch (element 52 in Fig. 1) and magnet (element 54 in Fig. 1). The lead switch in a circuit of Gauthier is operative to connect the load directly to the power supply and therefore to the grounding line (element 10 in Fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Shinpo et al. solution by adding the magnet of Golf et al., because as Golf et al. state col. 1, lines 28 – 39), “the prior switch mechanisms often comprise mechanical push button switches which do not always open and close when they should due to mechanical tolerances built into the chassis supporting the circuit boards. In other words, the closing of a printed circuit board's injector latch or latch cover may not always or reliably close the power switch on that circuit board. Furthermore, they are

relatively expensive and are sometimes adversely affected by mechanical shock and vibration”.

Regarding Claim 7, Gauthier discloses a solution applicable for switching of plurality of lines (see Fig. 3). A motivation for modification of the primary reference is the same as above.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinpo et al. in a view of Broedner et al. and further in a view of Court Decision In re Lindberg, 93 USPQ 23 (CCPA 1952). As per Claim 8, it differs from Claim 1 by its limitation of the electronic apparatus being portable apparatus. The Court Decision addresses this issue stating that making an old device portable or movable without producing any new unexpected result involves only routine skill in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the Shinpo et al. solution by making the electronic device portable, because according to the Court Decision, it has been held that making an old device portable or movable without producing any new unexpected result involves only routine skill in the art.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose telephone number is (703) 305-0759. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by

Art Unit: 2836

telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (703) 308-3119. The fax phone number for organization where this application or proceedings is assigned is (703) 872-9306 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Z.K.
11/23/2003



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800